Bolton College: Maths Everywhere App

Summary

Bolton College created a Maths Everywhere app as an interactive learning tool to help adults boost their numeracy skills by explaining everyday concepts through a series of tools and learning activities.

About Bolton College

Bolton College provides high quality vocational training within seven main centres around Bolton and offers over 800 full and part time courses to enhance its students’ qualifications, skills and employability.

The challenge

The National Institute of Adult Continuing Education (NIACE) set a challenge for Learning Providers to work with app developers to create an app that would help people who need a boost with their numeracy skills. Modern English and Bolton College worked together to achieve this objective in a fun yet informative way.

The activity

The Maths Everywhere app was developed by NIACE, Bolton College and Modern English. It was created after being chosen by a public vote in a competition run in partnership with NIACE and Maths4Us. There were four different participants in which Maths Everywhere received over half of the votes. When crowned the winner, Bolton College was awarded £60,000 to produce the problem solving app with the help of Modern English. This was part of the nationwide initiative to help boost adult Maths skills across England.

The app took three to four months to develop. The biggest challenge was creating the questions while taking into account the massive range of topics that maths covers. This took a huge amount of staff time to map everything from the curriculum into the app. Time was definitely the biggest challenge. View the Maths Everywhere NIACE Competition Entry here.
The app uses everyday situations (like filling a car with petrol) to help users understand the importance of maths in everyday life and supports them with learning tools.

Maths Everywhere has three different sections offering helpful tools, video tutorials and practice questions to help users improve their skills and become more confident.

The three sections of Maths Everywhere are:

1) **Everyday tools** - A range of tools are provided to help people solve the maths problems they encounter every day, like splitting the bill at a restaurant, working out the fuel costs for a journey, calculating childcare costs, converting currencies, increasing or decreasing recipe quantities, figuring out the best discounts and much more.

2) **How to work it out** - Through a series of short video tutorials, the next stage of Maths Everywhere helps users improve their skills so they can confidently solve problems themselves in the future. Users are guided through three different levels of maths challenges.

3) **Have a go** - Users can put their new and improved skills to practise, earning a badge for each topic by answering all of the questions correctly. If an incorrect answer is given, users have the option to refer back to the appropriate video tutorial. Once badges for each section and level have been successfully earned, a new ‘Challenge’ is unlocked. Badges are prominently displayed to help users keep track of their learning.

Paul McKean, Jisc RSC Northwest Manager explains: “While in my former post at Bolton College I came up with the concept of Maths Everywhere as a way of using technology and gaming principles to help engage users with Maths. The app was designed to help people contextualise Maths to everyday life by providing a number of everyday tools which ‘does the Maths’ for the user. The tools are designed to engage users and to encourage them to eventually learn the Maths behind each tool. Once a user gains confidence with the different aspects of Maths, the app uses gaming principles to encourage users to gain badges and compete against their peers, adding a fun element to the learning process.

Now I’m working for Jisc and supporting the wider Further Education and Skills sector, I’m delighted Maths Everywhere is freely available to support provider needs with the teaching of Maths and I expect lots of our providers to utilise the many resources within their support programmes.”

**The outcomes**

Since the launch of the Maths Everywhere App NIACE has published the Maths App code and content to allow users to re-purpose, combine or contextualise these materials to build something new.

This will allow users the freedom to modify and use the materials, personalising the App or re-developing it to meet the needs of diverse target groups in various learning contexts. The code is available for anyone to download on the condition that any further developments are shared with the group.
By releasing Maths Everywhere under a creative commons license, NIACE hopes to extend the reach and impact of the App to all sectors of education and to even more learners.

On 1st May 2014 Maths Everywhere won ‘App of the Year’ in the Prolific North Awards beating stiff competition from national nominees such as The Guardian, Aldi UK and Imperial Leather. Judges were impressed by this game changing app which is now regarded as one of the best education apps ever built.

Matthew Hancock, Minister of State for Skills and Enterprise, said: "It's great to see Maths Everywhere be recognised in this way. I've used this app myself with my children and it's a valuable tool. It supports learners to improve their maths skills and make them more confident at work, college, in their apprenticeship or in their day to day life. Improved maths skills can make an individual more employable, which in turn benefits the economy and encourages growth."

Pat Harrison, Director of 14-19 and Foundation Learning at Bolton College, said: "It is fantastic to hear that our app has won this award! It is a priority at Bolton College that we embed maths and English into all of our sessions so that our learners experience the best possible teaching and learning. Our Maths Everywhere app is a great tool for our tutors and learners to use and is helping to point out the relevance of maths in our everyday lives."

**The impact**

The App has proved popular with over 3,000 downloads to date (10 July 2014) and positive feedback from learners, tutors and providers alike.

Students from Bolton College describe what it is they love about the app in this YouTube video.

One of Bolton College’s students, Darwin Colgan told us: “I believe this app will go all over the world. All teachers out there should engage with this app because it is helpful for teachers and students. It’s not just a learning tool it is a helpful tool as well.”

Darwin has committed a vast amount of time to the app and absolutely loves it. In September he was assessed as being Entry Level 3 and now has moved up to Level One in just four months! He has stated that this is due to the maths app!

Karen Gaynor, one of the teachers from Bolton College stated: “The app has been a great help in promoting independent study in the classroom and workshop. Learners have been working individually on specific topics that they need help in understanding.”

User, Chloe Halliday: “I think this Maths app is brilliant! I am currently studying Maths at the college and feel this Maths app is really going to benefit my revision. You get asked questions in exam style and you can really put to use what you have been taught! Brilliant idea!”
User, Ian Hall: "I shared this yesterday with our Functional Skills department - it's very addictive!! I like how it differentiates and contextualises the subject. It is perfect for a tablet and smart phone and keeping students interested. It kept me interested for a good while!!"

Steven Henwood, Shape Training: “I think the app is great and look forward to encouraging more students to use it.”

User, Tracie Herbert: “I was introduced to your website earlier today and it has helped my 9 year old understand multiplication and decimal points which I found difficult to understand, she watched and understood immediately - thank you.”

The lessons learned

Catherine explains: “I am really proud of our creation of Maths Everywhere. Fiona Wright, Val Beasley and I worked very hard to create the maths content. Communication was key when creating the app. Our team at Bolton College communicated on a daily basis to ensure the smooth running of the development. The mapping of the app to the Functional Skills and GCSE curriculum was also really important as when developing something like this, you want it to be relevant and have impact. Learners have been using the app to revise for their exams and have said how useful the app has been as a tool when at home.”

Useful links

Jisc RSC Northwest
Bolton College
Download the Maths Everywhere app from the iTunes store now
Download the Andoid version of the app from the Google Play store
Access the PC version via your browser
NIACE
Modern English
Maths4Us

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